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**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C.**

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In re:

MAR 18 2004

Amendment of Section 73.622  
Table of Allotments  
DTV Broadcast Stations  
Billings, Montana

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

MB Docket No. \_\_\_\_\_

To: The Secretary, FCC  
Attn: Chief, Allocations Branch  
Policy and Rules Division

**PETITION FOR RULEMAKING**

Montana State University ("MSU"), by its counsel and pursuant to Section 1.420 of the Commission's Rules, hereby requests that the Commission institute a rulemaking proceeding to amend Section 73.622 of its Rules to allot Channel \*16 as a new DTV channel at Billings, Montana, and to reserve it for noncommercial educational use. Such an allotment would serve the public interest by providing the city of Billings with its first local noncommercial educational digital television channel and the surrounding areas with high quality public television programming. MSU commits to apply for DTV Channel \*16 at Billings, if allotted and reserved for noncommercial use.

**Background**

MSU is a public institution of higher education in the state of Montana. It was founded as a land-grant college in 1893. MSU's home campus is located in Bozeman, Montana, community of license to MSU's noncommercial educational television station KUSM(TV). MSU also maintains three affiliate campuses in the state, including MSU-Billings. MSU's stated mission is to provide a challenging and richly diverse learning environment in which the entire

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university community is fully engaged in supporting student success; to provide an environment that promotes the exploration, discovery, and dissemination of new knowledge; to provide a collegial environment for faculty and students in which discovery and learning are closely integrated and highly valued; and to serve the people and communities of Montana by sharing its expertise and collaborating with others to improve the lives and prosperity of Montanans.

In furtherance of its educational mission, MSU utilizes Station KUSM to broadcast high quality educational, informational and cultural programming, including children's programming, locally-produced broadcasts and PBS offerings. MSU has been providing public TV service to the KUSM viewing area since 1984. MSU now hopes to further its educational mission by providing the only noncommercial educational TV programming service based in Billings. Most importantly, the addition of the Billings DTV station allotment proposed herein would eliminate noncommercial educational television white area in portions of Montana by providing a first noncommercial educational television service to local residents. *See* attached Engineering Statement at 2. The proposed DTV operation on Channel 16 at Billings would provide a first educational television service to an area of 23,045 square kilometers and a population of 155,386 persons. *Id.*

In support of this petition, MSU submits the following:

**The Allotment of DTV Channel \*16 to Billings, Montana Satisfies Technical and Regulatory Requirements**

The present proposal satisfies the minimum geographic spacing requirements with regard to all other DTV stations, DTV allotments, and analog TV stations. *See* Engineering Statement at 1. The reference coordinates for the proposed site are N. 45°-45'-35"; W. 108°-27'-14" (NAD27).

In addition, as the attached engineering statement demonstrates, this request is in compliance with the community coverage requirements of Section 73.625(a), assuming a power/height combination of no more than 1,000 kw/209 m HAAT. Accordingly, the allotment of DTV Channel \*16 at Billings complies with the requirements of Section 73.623 of the Commission's Rules.

Moreover, this proposal complies with Section 73.622(a) of the Commission's Rules with respect to the initiation of a rulemaking proceeding to add an unoccupied DTV channel to the Table of Allotments and to reserve that channel for noncommercial educational use. As detailed above and in the attached Engineering Statement, this allotment would provide a first noncommercial educational TV service to 155,386 persons. These 155,386 persons represent the entire population within the 41 dBu contour of the proposed Billings Channel 16 allotment. See Engineering Statement at 2 and E-1. Therefore, the proposed allotment will provide a first noncommercial educational television service to more than 2,000 people who constitute more than 10% of the population within the proposed noise limited contour. The proposal thus complies with Section 73.622(a) of the Commission's Rules.

**Allotment of DTV Channel \*16 to Billings, Montana Would Provide the Billings Area with a Valuable Source of Noncommercial Educational Programming**

At present, there is no noncommercial educational DTV allotment for Billings, Montana. The allotment of DTV Channel \*16 to Billings would therefore provide the city with its only noncommercial educational digital television facility. Moreover, as demonstrated above, the new DTV allotment in Billings would significantly reduce noncommercial educational television

white area, in furtherance of the Congressional mandate in Section 396 of the Communications Act.<sup>1</sup>

The Commission recognizes the value of local programming, especially with respect to noncommercial educational broadcasting. *See, e.g., Educational TV Assignment at Terre Haute, Indiana*, 19 RR 2d 1850, 1853 (1970) (“We have repeatedly announced our policy to forward local programming in the broadcast services. Local programming is essential particularly in the field of education in that local programming can most effectively deal with the specific problems, needs, and interests in the community being served.”)

**DTV Channel \*16 at Billings, Montana, Should Be Reserved for Noncommercial, Educational Use**

The purpose of this petition is to allot a channel, for which MSU intends to apply, to provide Billings with its first noncommercial educational DTV channel. Reservation of Channel \*16 for noncommercial educational use would make possible the enhanced provision of noncommercial and educational programs in the area. Moreover, in accordance with the requirements of Section 73.622(a), the proposed allotment would provide a first noncommercial educational service to 155,386 persons.

**Conclusion**

For all of these reasons, MSU requests that the Commission institute a rulemaking proceeding to amend Section 73.622 of its Rules to allot DTV Channel \*16 to Billings, Montana, and to reserve it for noncommercial educational use.

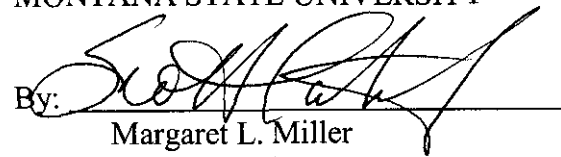
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<sup>1</sup> “It is in the public interest for the Federal Government to ensure that all citizens of the United States have access to public telecommunications services through all appropriate available telecommunications distribution technologies.” 47 U.S.C. § 396(a)(9).

Respectfully submitted,

MONTANA STATE UNIVERSITY

By:

A handwritten signature in black ink, appearing to read 'Margaret L. Miller', written over a horizontal line.

Margaret L. Miller

Scott S. Partick

Barry S. Persh

Attorneys for Petitioner

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March 18, 2004

ENGINEERING STATEMENT  
PETITION FOR RULE MAKING  
SECTION 73.622 OF THE FCC RULES  
ON BEHALF OF  
MONTANA STATE UNIVERSITY  
NEW-DT, BILLINGS, MONTANA  
CHANNEL 16 1000 KW 209 METERS HAAT

MARCH 2004

COHEN, DIPPELL AND EVERIST, P.C.  
CONSULTING ENGINEERS  
RADIO AND TELEVISION  
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington           )  
  ) ss  
District of Columbia        )

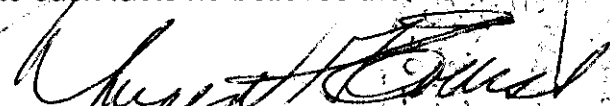
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.



Donald G. Everist  
District of Columbia  
Professional Engineer  
Registration No. 5714

Subscribed and sworn to before me this 11<sup>th</sup> day of March, 2004.

  
Notary Public

My Commission Expires: 2/28/2008

This engineering statement has been prepared on behalf of Montana State University, licensee of television station KUSM-TV, NTSC Channel 9, Bozeman, Montana. It is proposed to add a digital television channel educational allotment to Section 73.622 of the FCC Rules for UHF Channel 16 at the maximum UHF-DT non-directional power of 1000 kW and a height above average terrain of 209 meters to serve Billings, Montana. The resulting service area encompasses the entire community of Billings per Section 73.625(a). The allocation study has been performed in accordance with Section 73.623(d) of the FCC Rules. In addition the spacing criteria to Section 73.623(e) of the FCC Rules for the protection of land mobile operations is met.

A detailed interference and spacing analysis provided in Table I has been performed of the impact of this proposal on other authorized NTSC stations, DTV allotments listed in Appendix B, and other proposed DTV allotment changes.

<u>DTV CH</u>	Effective Radiated <u>Power</u> kW	<u>HAAT</u> meters	<u>RCAMSL</u> meters
16*	1000	209	1256

North Latitude: 45° 45' 35"

West Longitude: 108° 27' 14"

NAD-27

\*Reserved Educational Channel

As shown in Table I, the addition of the DTV allotment for Channel 16 meets the criteria under Section 73.623(d) and (e) of the FCC's Rules. Further, an examination of co-channel low power television and translator stations within 100 km has been performed. No other low-power or translator station is found.

Per Section 73.622(a) of the FCC Rules, an examination of other full-service educational service in the area of Billings has been conducted. It is determined that the proposed DTV operation on Channel 16 will provide the first educational service within the predicted 41 dBu contour. The population based on the 2000 Census and the land area are as follows:

land area           --    23,045 sq. km

2000 population --    155,386

Exhibit E-1 depicts the proposed service within the predicted 41 dBu contour.

Therefore, it is believed that the request for DTV channel will be consistent with the FCC Rules.

COHEN, DIPPELL AND EVERIST, P. C.

TABLE I  
INTERFERENCE SUMMARY  
NEW-DT, BILLINGS MONTANA  
CHANNEL 16 1000 KW NON-DIRECTIONAL 209 METERS HAAT  
MARCH 2004

Interference Analysis

A study of predicted interference by the proposed NEW DT service has been performed using a version of the Longley-Rice program as described in OET Bulletin No. 69 (July 2, 1997) and the Public Notice, "Additional Application Processing Guidelines for Digital Television (DTV)" (August 1998). The FCC's FORTRAN-77 code was modified only to the extent necessary (primarily input/output handling) for the program to run on a Windows98/Intel platform. Comparison of service/interference areas and populations indicates that this model closely matches the FCC's evaluation program. Best efforts have been made to use data and calculations identical to the FCC's program. Any slight differences are attributable to compiler, operating system and/or processor characteristics. The effect of any variance in calculated population values versus the FCC's program is minimized when differencing a given model's results, e.g., new interference equals total interference less baseline interference. The effect is further reduced for ratios of calculated population values, e.g., incremental population affected as a percent of total population served. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 4 km<sup>2</sup> using 3-second terrain data sampled approximately every 0.1 km at one degree azimuth intervals with 1990 census centroids.

The following conditions were investigated:

Proposed Addition: NEW DT, UHF Channel 16\*, a height of 209 meters HAAT (1256 meters RCAMSL) and an ERP of 1000 kW omni-directional at: N 45° 45' 35", W 108° 27' 14" (NAD-27)

\*Educational Allotment

<u>Affected Station</u>	<u>Distance</u> km	<u>Percent Interference</u> <u>Caused by Proposed DT</u>
		<u>New</u>
BPCT-960919KI Ch.14, Billings, MT	0.6	0.0
BPCT-970331KF Ch.14, Billings, MT	0.6	0.0
BPCT-970331KJ Ch.14, Billings, MT	10.3	0.0

COHEN, DIPPELL AND EVERIST, P. C.

TABLE I  
INTERFERENCE SUMMARY  
NEW-DT, BILLINGS MONTANA  
CHANNEL 16 1000 KW NON-DIRECTIONAL 209 METERS HAAT  
MARCH 2004  
(continued)

<u>Affected Station</u>	<u>Distance</u> km	<u>Percent Interference</u> <u>Caused by Proposed DT</u>
		<u>New</u>
BPCT-970331KU Ch.14, Billings, MT	1.2	0.0
BPCT-970331LV Ch.14, Billings, MT	10.3	0.9
BPCT-970331LZ Ch.14, Billings, MT	0.7	0.0
BPCT-970331LO Ch.14, Billings, MT	0.3	0.0
KTGF, BLCT-19861006KE Ch.16, Great Falls, MT	301.9	0.0
KFNE, BPCDT-20000110AAF Ch.16, Riverton, WY	256.7	0.1
KFNE-DT, DTVPLN-DTVP0238 Ch.16, Riverton, WY	256.7	0.0

Allocation Study Based on Spacing Criteria

<u>Call</u>	<u>City/State</u>	<u>CH</u>	<u>ERP</u> kW	<u>HAAT</u> meters	<u>Coordinates</u>	<u>Distance</u>	
						<u>Required</u> km	<u>Actual</u> km
960919KI	Billings, MT	14	5000	113	45°45'53" 108°27'16"	<24.1	0.6
970331KF	Billings, MT	14	5000	190	45°45'54" 108°27'23"	<24.1	0.6

COHEN, DIPPELL AND EVERIST, P. C.

TABLE I  
INTERFERENCE SUMMARY  
NEW-DT, BILLINGS MONTANA  
CHANNEL 16 1000 KW NON-DIRECTIONAL 209 METERS HAAT  
MARCH 2004  
 (continued)

<u>Call</u>	<u>City/State</u>	<u>CH</u>	<u>ERP</u> kW	<u>HAAT</u> meters	<u>Coordinates</u>	<u>Distance</u>	
						<u>Required</u> km	<u>Actual</u> km
970331KJ	Billings, MT	14	1510	212	45°48'26" 108°20'25"	<24.1	10.3
970331KU	Billings, MT	14	4270	107	45°46'10" 108°27'33"	<24.1	1.2
970331LO	Billings, MT	14	20	196	45°45'32" 108°27'01"	<24.1	0.3
970331LV	Billings, MT	14	1700	223	45°48'26" 108°20'25"	<24.1	10.3
970331LZ	Billings, MT	14	5000	99	45°45'59" 108°27'19"	<24.1	0.8
KTVQ <sup>1</sup>	Billings, MT	17	1000	165	45°46'00" 108°27'27"	<12.0	0.8

NOTE: < is less than

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<sup>1</sup>KTVQ-TV authorized to replace the allotted Channel 17 in MM Docket 87-268 with Channel 10 per Report & Order, MB Docket 02-116 (RM-10233).

